



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[DOCKET No. NHTSA 2012-0025]

Federal Motor Vehicle Safety Standards;

Denial of Petition for Rulemaking; Vehicle Rollover Resistance

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Denial of petition for rulemaking.

SUMMARY: This document denies a petition for rulemaking submitted by Mr. Michael Schramm requesting that the agency initiate rulemaking to establish a Federal motor vehicle safety standard (FMVSS) to prevent a vehicle from being steered into a rollover at any speed. Mr. Schramm has applied to patent a device he believes will enable vehicles to meet his requested standard. After review of Mr. Schramm's petition, we believe the petition lacks sufficient data to support proposing and promulgating a safety standard. Further, it might create conflicts with existing standard and consumer information metrics. Therefore, NHTSA is denying Mr. Schramm's petition.

FOR FURTHER INFORMATION CONTACT: For non-legal issues: Mr. John Lee, Office of Crash Avoidance Standards, NVS-123, Telephone: (202) 366-4924; Facsimile: 202-493-2739; E-mail: john.lee@dot.gov.

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SUPPLEMENTAL INFORMATION:

On September 30, 2010, Mr. Michael Schramm submitted a petition for rulemaking requesting that NHTSA establish a Federal motor vehicle safety standard (FMVSS) to prevent a vehicle from being steered into a rollover at any speed. Mr. Schramm suggested that NHTSA number and name this new standard FMVSS No. 140, “Anti-Roll Steering.” He supplied regulatory text for the requested FMVSS No. 140, a copy of his application for a patent for his rollover prevention apparatus (the apparatus), a copy of FMVSS No. 126, “Electronic stability control systems,” a copy of the preliminary regulatory impact analysis for FMVSS No. 126, and 2002 accident rollover data from the NHTSA web site www.safercar.gov. The requested standard would restrict a vehicle’s steering wheel from steering a vehicle into a rollover.

Agency Response and Decision

As stated in Mr. Schramm’s petition, more than 10,000 people were killed in rollover crashes in 2002. However, in 2009, the rollover fatalities fell to 8,267, based on NHTSA’s early release of annual fatality figures.¹ While there are several reasons for these reductions, we believe that the consumer information and rulemaking actions that NHTSA has been actively pursuing played a role in reducing fatalities and injuries from rollover crashes and will continue to reduce these numbers even more.

¹ See Traffic Safety Facts 2009 (Early Edition), Table 23: Passenger Car and Light Truck Occupants Killed, by Vehicle Type and Rollover Occurrence, 1982-2009.

Since 2001, NHTSA's New Car Assessment Program (NCAP) has been rating vehicles for rollover resistance and making these ratings available to consumers on www.safercar.gov and in other agency publications. Initially, rollover resistance ratings were based solely on a vehicle's Static Stability Factor (SSF), a calculation that uses a vehicle's width and the height of its center of gravity to predict a vehicle's chance of rollover in a single vehicle crash.

In the Transportation, Recall, Enhancement, Accountability and Documentation (TREAD) Act of November 2000, Congress directed NHTSA to develop a dynamic rollover test and to use information obtained in that test to help inform consumers about the rollover properties of vehicles. On October 14, 2003, NHTSA published a final policy establishing a "fishhook" test as the dynamic rollover test for NCAP.

The fishhook test is an objective and repeatable test capable of determining a vehicle's susceptibility to rolling over on-road. The fishhook maneuver uses steering inputs that approximate the steering a driver might use in a panic situation in an effort to regain lane position or to recover having gone off the road. The fishhook test is conducted at speeds up to 50 mph and in two symmetric steering inputs (left to right and right to left), with the final input of the test being approximately 270 degree. When the wheels on the same side of a vehicle simultaneously lift two or more inches off the ground, the vehicle fails the test.

The results of this test are noted on www.safercar.gov for every vehicle tested. As of 2004, rollover resistance ratings are based on both a vehicle's SSF and whether or not the vehicle tipped up in the fishhook test. In response to this rating program, as indicated by the improvement in ratings and the physical characteristics of the vehicles, vehicle manufacturers have made improvements to the rollover properties of the vehicle they produce. The agency has been able to document that some makes and models of vehicles have become wider, and have a

centers of gravity that are lower to the ground than previous versions of similar makes and models, therefore improving their SSF and making them less susceptible to rollover.

On April 6, 2007, NHTSA established FMVSS No. 126, “Electronic stability control systems,” (ESC) to help reduce rollover and other types of loss of control crashes. ESC systems use automatic computer-controlled braking of individual wheels to assist the driver in maintaining control in critical driving situations where the vehicle is beginning to lose directional control at the rear wheels (spin out) or directional control at the front wheels (plow out). NHTSA estimates that ESC has the potential to prevent 71 percent of passenger vehicle rollovers that would otherwise occur in single vehicle crashes. The agency further estimates that ESC will save 5,300 to 9,600 lives and prevent 156,000 to 238,000 injuries in all types of crashes annually once all light vehicles on the road are equipped with ESC systems. Many automotive manufacturers equipped their vehicles with ESC prior to the September 1, 2011 date for full compliance with FMVSS No. 126.

On May 12, 2009, NHTSA upgraded FMVSS No. 216, “Roof crush resistance,” to improve roof strength to reduce the risk of death and serious injury in rollover crashes. The amendments double the current roof strength requirement for light vehicles weighing up to 6,000 pounds. It specifies that both the driver and passenger sides of the roof must be capable of withstanding a force equal to three times the weight of the vehicle applied to one side of the roof, up from the current 1.5 times the weight of the vehicle. Phase-in of the requirement began in September 2012 and will be completed for all affected vehicles by the 2017 model year. It is estimated the tougher roof crush requirements will prevent 135 fatalities and 1,065 non-fatal injuries annually.

On January 19, 2011, NHTSA published a final rule establishing FMVSS No. 226, “Ejection mitigation,” to reduce the partial and complete ejection of vehicle occupants through side windows in crashes, particularly rollover crashes. Under the new rule, vehicle manufacturers must develop a countermeasure for light passenger vehicles under 4,536 kilograms (10,000 pounds) that prevents an 18 kilogram (40 pound) linear impactor from moving more than 100 millimeters (4 inches) past the side window opening. The new standard will begin phasing in on September 1, 2013. All newly manufactured vehicles will be required to provide this protection by September 1, 2017. When fully implemented, this standard will, the agency believes, prevent on average 373 fatalities and 476 serious injuries every year.

After carefully reviewing the attachments to Mr. Schramm’s petition, we noted that the regulatory text for the requested standard was not complete and values for the steering rate in the Anti-Roll Steering Test were left blank. Determining those values would take additional resources to complete. We also note that while data for FMVSS No. 126 was supplied in Mr. Schramm’s petition, we do not believe this data is relevant for promulgating a safety standard for Mr. Schramm’s apparatus. As such, the petitioner did not provide any data that would support the granting of his petition.

We further note there might be a safety risk due to the lack of steering responsiveness of Mr. Schramm’s apparatus that may cause unintended deaths and injuries as a result of drivers colliding into objects they were trying to avoid. It was also noted that the steer-limiting requirement of the petitioner’s requested test procedure might prevent the agency from conducting ESC compliance tests. Also, the agency might not be able to conduct the fishhook test it developed in response to the Congressional call for a dynamic test whose results Congress said must be used in developing information for consumers on the rollover resistance properties

of vehicles. In conclusion, we believe Mr. Schramm's petition provides no data to demonstrate that his requested standard would result in any safety benefits. Further, adoption of the requested standard might create conflicts with existing safety standards. Therefore, his petition is denied.

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Christopher J. Bonanti
Associate Administrator for
Rulemaking

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